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Fruitflies allied to species of Afrocneros and Ocnerioxa that infest Cussonia, the umbrella tree or kiepersol (Araliaceae) (Diptera: Trypetidae)

by

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SYNOPSIS

Records and descriptions are given of species of *Afrocneros* Bezzi, *Ocnerioxa* Speiser and *Ptiloniola* Hendel, and the following new species are described: *Ocnerioxa cooksoni* (Rhodesia), *O. capeneri* (Transvaal), *O. tumosa* (Uganda); *Ptiloniola rotunda* (Kenya), *P. edwardsi* (Uganda). A new genus, *Labeschatia*, and its type, *circumlineata* n. sp., are described on material from Nyasaland, Rhodesia and South Africa. Larvae of some species of *Afrocneros* and *Ocnerioxa* are known to feed on parenchymatous tissue in the trunk of *Cussonia* trees (Araliaceae).

INTRODUCTION

The African genera *Afrocneros* Bezzi, *Ocnerioxa* Speiser and *Ptiloniola* Hendel form a distinct and isolated group both taxonomically and biologically. It is hardly possible to trace them in the tables published by Bezzi in 1924 (*Bull. ent. Res.*, **15:** 76). Couplet 58 (55) states "second longitudinal vein straight; pterostigma *short*" leading to 61 (62) *Ptiloniola* thus implying that the stigma is short in this genus, while in the description of *Ptiloniola neavei* is stated "elongated stigma". The implication of the short stigma is continued, but at 74 (73) is found "wings . . . with elongate stigma", but *Afrocneros* and *Ocnerioxa* would have been thrown out or included under 55 (58) ". . . stigma elongate." By modifying the table at this point, the position of the present group would be more clearly indicated:—

1. pterostigma elongate
   (*a*) 6 scutellar bristles, etc. .. .. *Themarictera* Hendel
   Themara Walker
   (*b*) 4 scutellar bristles .. .. *Afrocneros* Bezzi
   Ocnerioxa Speiser
   Ptiloniola Hendel
2. pterostigma short .. .. other genera—*Rhacoclaena*, etc.

Neither *Themarictera* nor *Themara* are allied to the present group; *Ptilona* is not either although it has 4 scutellars and an elongate stigma; there are marked differences in the chaetotaxy especially of the head and the aedeagus is different. Genera such as *Rhacoclaena*, *Notomma* and *Pseudospheniscus* may be termed "obviously" different, but further comment must await more detailed study.

Group Characters

Wing: stigma elongate; upper cross-vein beyond middle of discal cell; bristles: *dc* behind mid line of scutum, *pt always* absent, 4 long scutellars; pleuro-tergite not hairy; sternites: S5 ♂ and S6 ♀ with dense pubescence patches; ♂ aedeagus complex; ♀ aculeus tactile; 3 spermathecae, "ridges" present on oviduct but no "elongate" gland.

Generic Relationships

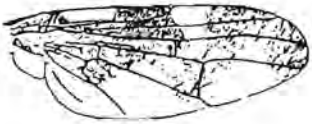
The generic arrangement of the species is not easy. *Afrocneros* is the most distinct; the wing pattern of the species is much alike and there is a resemblance between the aedeagi characterised by the peculiar flat rod (on the upper side in the figures) covered with fine, irregular, transverse ridges. *Ptiloniola*, while close to *Afrocneros*, has a plumose arista and, in the type species, a remarkable aedeagus. The other species with a plumose arista, *secata*, is kept in *Ocnerioxa* temporarily.

There is a general resemblance in the aedeagi of *sinuata*, *capeneri* and *cooksoni*, and all are heavily setose and granular on the inner surfaces; the wing-patterns in *sinuata*, *delineata* and *lindneri* are much alike (the two latter not dissected); in *cooksoni* and *bigemmata* the pattern is rather different and the aedeagus of *bigemmata* more like *pennata*, but is heavily setose. There is a parallel resemblance in the wing-patterns and aedeagi of *pennata*, *tumosa* and *woodi*, but the latter has no *presut* bristle. The aedeagi are not so strongly setose and there is a marked resemblance in some of the detail between *tumosa* and *woodi*. The characters of the wing and of the aedeagus together with the absence of several thoracic bristles have been considered sufficient to erect a new genus for *circumlineata*.

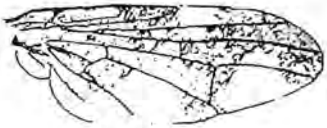
General Description of Species

Head. Proportions of length, height, width are about 6 : 8 : 10, but may be shorter or less high; posteriorly may be more or less developed stripes or dark areas; eye rounded-oval or more rounded; frons 0.7 to 0.8 its length and 0.3 to 0.4 width of head, moderate to strong, fine, black pubescence, sometimes paler; antennae 0.8 ± 0.1 length of face, when shorter appear more so if somewhat porrect; arista short to micropubescent, or bare, rarely plumose or in *Afrocneros* species, slight pubescence basally and a few spaced, rather long hairs on top; face: epistome flat or a little prominent; parafacials narrow, genae moderately wide and more or less swollen behind; proboscis and palpi short. Bristles: 2 *i.or*, when 3 supernumeraries usually present; 2 *s.or*, the hind one tending to be much smaller, occasionally very small and almost absent; *p.orb* a single, strong row of more or less close-set, fine, black bristles.

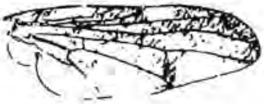
Thorax brownish, more or less unicolorous or dorsum much darker with rather weak to strong, variable, lateral stripes especially along top of mesopleura; pubescence fine, dark or pale; pleura and sterna usually yellow with longish yellow pubescence and often showing a strong contrast to the dark dorsum. Bristles: *scp* usually present but rather weak, *hm*, 2 *npl*, *presut* sometimes absent, *a.sa* rarely absent, *dc* always behind the line of *a.sa*, *prescut*, 1 or 2 *mpl*, or lower weak, *st* rarely absent, *pt* always absent. Relative position of bristles: to state that the *dc* are on, before or behind the line of the *a.sa* is merely to compare the positions of two variables and does not give the actual position of the bristles on the dorsum of the thorax, a definite measurement is needed. The distance between the hind edge of the



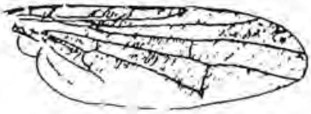
1. excellens.



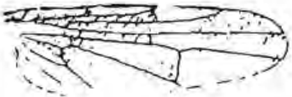
2. mundus.



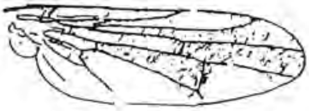
3. mundissimus.



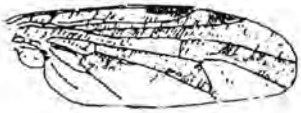
4. sinuata.



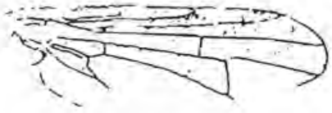
5. lindneri.



6. delineata.



7. cooksoni



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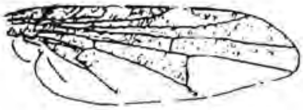

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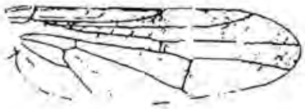
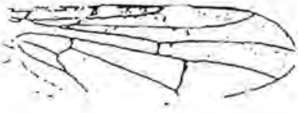
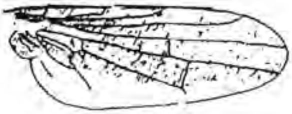


10. interrupta.



11. capeneri.



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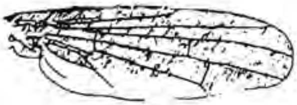
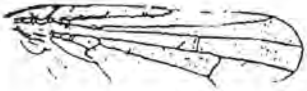
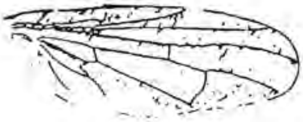


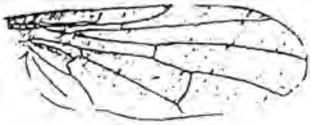
13. woodi.



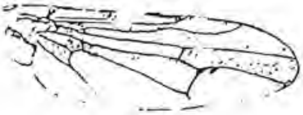
14. tumosa.



15. tripunctulata.



16. rotunda.



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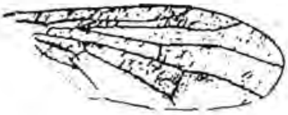
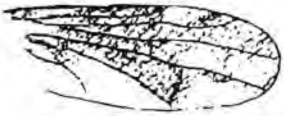
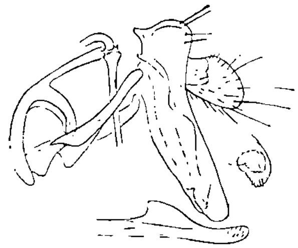


18. edwardsi



19. edwardsi

Figs. 1-19.



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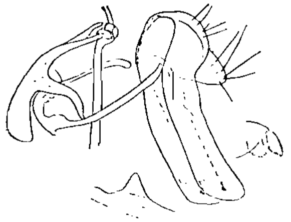

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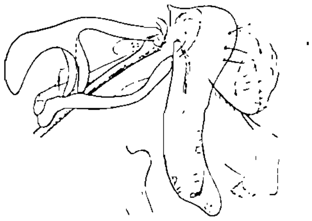

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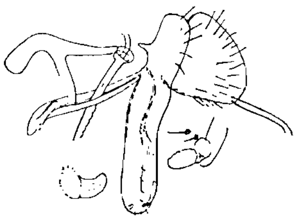

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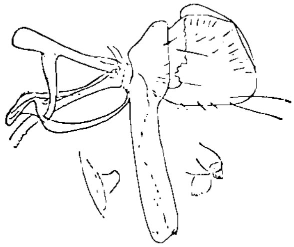

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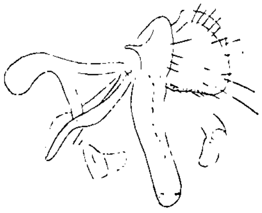

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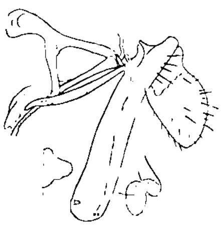

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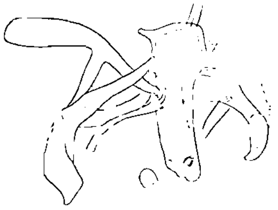
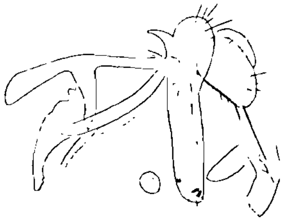
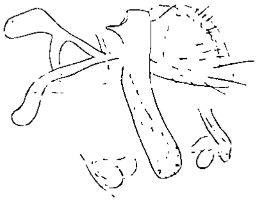


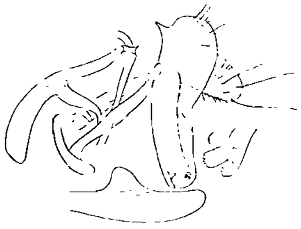
27. woodi.



28. tumosa.



29. capeneri.



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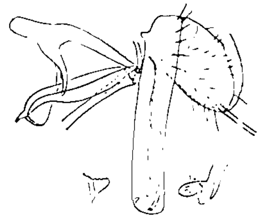
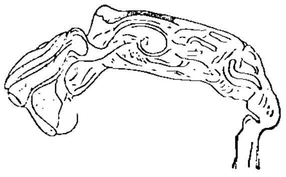


31. circumlineata.



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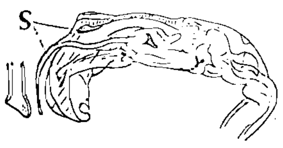
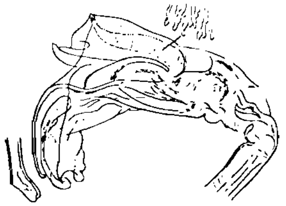
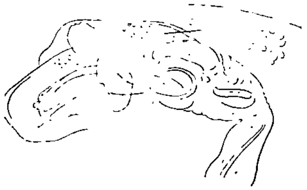


33. mundus.



34. mundissimus.

Figs. 20-34.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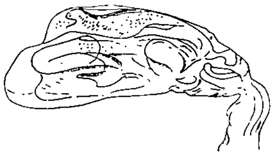
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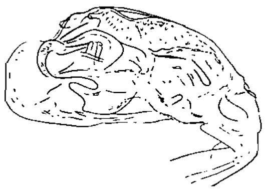
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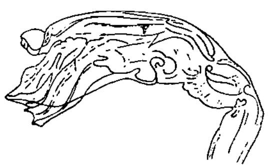
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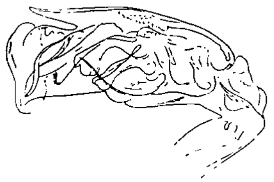
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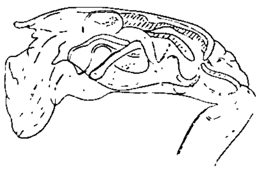
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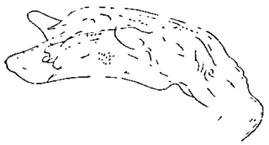
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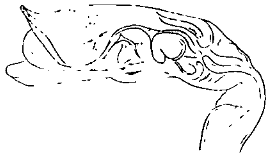
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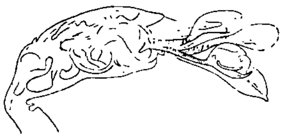
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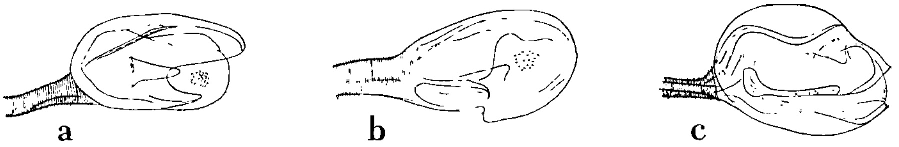
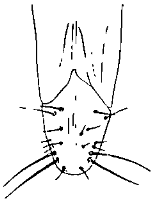
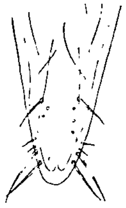


43. a, b, c. tripunctulata: apical processes.


44. excellens.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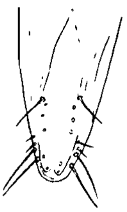
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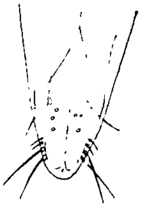
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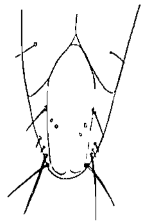
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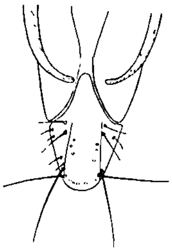
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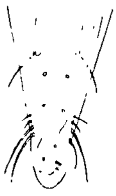
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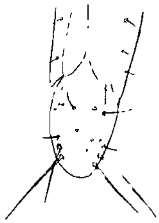
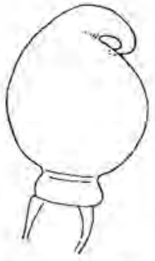

51. tripunctulata.

Figs. 35-51.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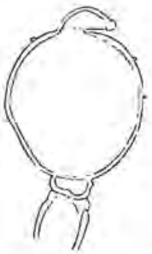
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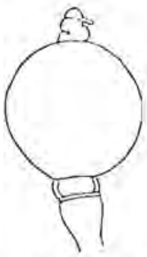
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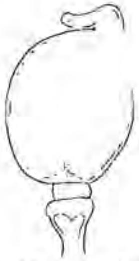
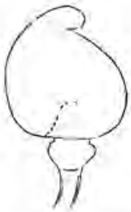
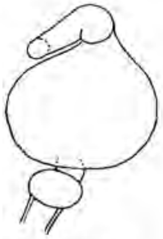
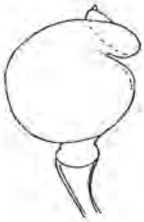
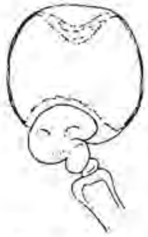
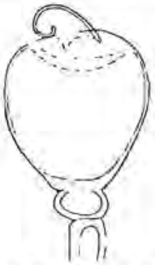

55. sinuata.

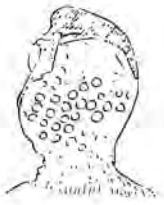

56. cooksoni.

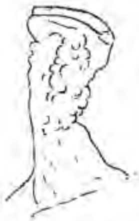

57. pennata.

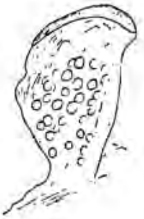

58. bigemmata.

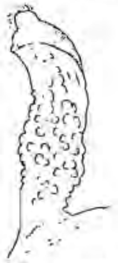

59. woodi.

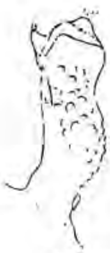

60. tripunctulata.

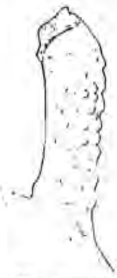

61. excellens.

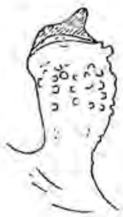

62. mundus.

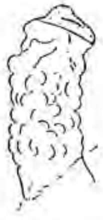

63. mundissimus.

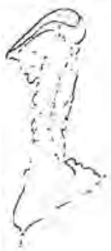

64. sinuata.


65. cooksoni.


66. pennata.


67. bigemmata.


68. woodi.


69. tripunctulata.

Figs. 52-69.

dorsum and the suture, that is, the length of the scutum, is measured as well as the distance of the *dc* and *a.sa* from the hind edge and the measurements expressed as a percentage of the scutal length (Fig. 70). The figures given after *dc* and *a.sa* are this percentage. When several specimens of a species are measured, the relative positions of the two bristles may be fairly constant, but there may be variation especially of the *a.sa.* Scutellum flat or a little convex, more or less triangular, 4 bristles of about equal length; legs moderate, pale; wings (Figs. 1-19) stigma elongate, as long or longer than outer costal cell, sometimes shorter, never short; costal bristle absent or very small; upper cross-vein beyond middle of discal cell, the lower angle of which tends to form a broad point.

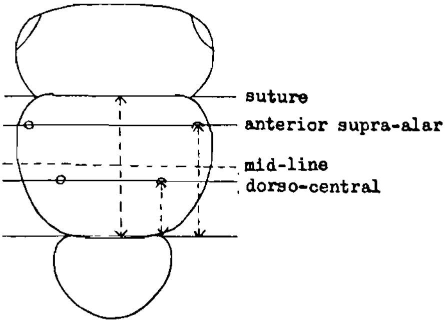


Fig. 7C.

Abdomen. Sternites: S5 ♂ and S6 ♀ with close-set patches of pubescence that may be seen on the specimen; among the pubescence are series of very small, black setulae arranged in short, irregular rows, only apparent under high magnification. Male: T9 (Figs. 20-31, with fultella) short or very short, on each side produced into long processes (? cerci) which may be wider than the dorsum of the tergite; prensisetae are at the lower end posteriorly, and near the anterior edge, internally is a peculiar, minute structure or gland (see figures) shown enlarged as an inset; this structure has not yet been observed in any other group. Fultella and supporting structures variable as shown; anal region rather large, but the size may appear variable due to the extrusion of dorsal membranes in some specimens. In the figures may be observed in the various parts differences that are not readily described. Aedeagus (Figs. 32-43): owing to the very complex structure of the aedeagus in these species, the figures can give no more than a general idea of the aedeagi and of their taxonomic value. There are apparent resemblances and some are highly specific, notably *Pt. tripunctulata* and *A. mundus.* The method of preparation is perhaps not the most satisfactory way to study them, and the transparency of the objects may lead to incorrect observations. Female. On the whole the reproductive system of the female does not show marked generic characteristics. Differences in the appearance of the tip of the aculeus may be seen in Figs. 44-51. The tip is "tactile" and finger-like, broadly rounded with 4 long, sensory hairs, 2 upwards and 2 downwards. The aculeus as a whole needs much closer study and a similar kind of "tactile" aculeus is found in some other genera notably those with 6 scutellars such as *Acanthoneura, Aethiothemara, Diarrhegma, Phorelliosoma* and *Rioxa; Celidodacus, Conradtina* and *Ptilona* have 4 scutellars and the aculeus is tactile, but the differences between these groups cannot be discussed here. The stylets of the aculeus are wide and appear exceptionally so in *lindneri*. The three spermathecae (Figs. 52-60) are spherical with a short, curled "tail" at the top, except in *woodi* (Fig. 59). They are very dark and there seems to be slight etching on the surface; the tubes enter the oviduct separately. Morula glands (Figs. 61-69): the "globules" are less developed or perhaps less evident, the apical "cap" seems somewhat specific in shape; the "accessory" gland is variable and the "elongate" gland absent, but the "ridge" glands on the oviduct are well-developed.

KEY TO GENERA AND SPECIES

1. *a.sa*, *presut*, *st*, *pt*, *prescut* bristles all absent; wing-pattern dimidiate, end of v2 wavy and end of submarginal cell wide .. .. .. **Labeschatia** n.g., **L. circumlineata** n.sp.

——the fore-going bristles present, only *pt* always absent and *presut* sometimes; v2 usually straight 2

2. arista plumose 3

——arista short, micropubescent or bare, or partly pubescent with a few spaced hairs above 6

3. 2 *mpl; p.orb* a long, strong row of close-set bristles; frons without a marked vertical plate; wing almost entirely infuscated; aedeagus (in type species) with three apical processes .. .. **Ptiloniola** 4

——1 *mpl; p.orb* less strong and bristles not close-set; frons with strong, prominent vertical plates; wing-pattern with a transverse, hyaline bar (terminalia not known) .. .. **Ocnerioxa secata**

4. stigma longer than outer costal cell, ♂ 1.7, ♀ 1.3 times, and distance between ends of v1 and v2 correspondingly short; v2 moderately sinuous and marginal cell widened beyond stigma; large species .. .. **edwardsi** n.sp.

——stigma as long as or only slightly longer than outer costal cell and distance between ends of v1 and v2 longer; marginal cell not widened beyond stigma 5

5. larger species, 6.5 to 6.9 mm, a strong, dark, V-shaped mark on each side behind head; bristles black; wing, infuscation complete nearly to hind margin leaving a small hyaline indent in posterior cell 2 .. .. **tripunctulata**

——smaller species, 4.0 mm, head brownish behind; dorsum, paler lateral stripe not strong; bristles brown; wing, on posterior margin a hyaline band from base to about middle of posterior cell 2 .. .. **rotunda** n.sp.

6. stigma shorter than outer costal cell; arista short pubescent basally and on upper aspect a few, spaced (? deciduous) hairs; 2 *mpl*; scutellum slightly convex and broadly black on middle; face rather flat to somewhat concave, epistome not prominent; wing wider with three, strong, hyaline indents, one on costa and two on hind margin .. .. **Afrocneros** 7

——stigma as long or longer than outer costal cell; arista short to micropubescent or bare; 1 mpl or a weak lower; epistome forming an angled ridge; scutellum flat, triangular, yellow; wing narrower to narrow, pattern more or less dimidiate .. **Ocnerioxa** 9

7. costal hyaline indent reaching v4 .. .. **excellens**

——costal hyaline indent not reaching farther than v3 8

8. a large, rounded hyaline spot in discal cell .. .. **mundus**

——no such spot, or a trace; discal cell mainly black .. .. **mundissimus** (NOTE: the true *mundissimus* is from the eastern Cape Province; specimens from the Transvaal with even a completely dark discal cell may be *mundus*—see text.)

9. *presut* present 13

——*presut* absent 10

10. pale species, dorsum of thorax only slightly darker than pleura, no lateral stripes; wing pattern with large hyaline areas .. .. **capeneri** n.sp.

——dorsum of thorax dark brown strongly contrasted with yellow pleura 11

11. wing narrow, pattern with posterior margin wavy; a dark bar across epistome .. .. **woodi**

——wing less narrow, a wide hyaline indent in posterior cell 2 and a wide or narrow projection to hind margin over lower cross-vein 12

12. wing-pattern hyaline or very pale between hyaline in marginal cell and in posterior cell 2 to form a hyaline, transverse band; a narrow stripe down lower cross-vein to wing margin .. .. **interrupta**

——dark pattern extended from base to apex; no dark stripe along top of mesopleura .. .. **lindneri**

13. wing narrow, pattern more or less dimidiate; hind margin wavy with at most a narrow point to hind margin on v5 14

——wing rather wider; posterior margin of pattern irregular, with more or less wide point to hind margin and a wide indent in posterior cell 2 16

14. on costa one hyaline spot in stigma and one in marginal cell at end of stigma .. .. **pennata**

——wing decidedly narrow; on costa three hyaline spots in stigma and two in marginal cell 15

15. a black spot on each side of epistome .. .. **discreta**

——epistome quite unspotted .. .. **tumosa** n.sp.

16. posterior margin of pattern with a wide point at end of discal cell and over lower cross-vein; end of discal cell truncate, the upper and lower angles about equal .. 17

——lower angle of discal cell tending to a wide point and the pattern forming an angular projection over end of discal cell and end of v5 18

17. pattern not reaching hind margin over end of v5, the hyaline in posterior cell 2 extending only about two-thirds across, not reaching v4; hyaline in marginal cell small .. .. **sinuata**

——pattern reaching hind margin over end of v5; hyaline in posterior cell 2 large, extending to or over v4; hyaline in marginal cell large, extending across cell .. .. **delineata**

18. discal cell relatively short and end of v4 longer than discal cell .. .. **bigemmata**

——discal cell longer and end of v4 shorter than its section over discal cell .. **cooksoni** n.sp.

Afrocneros Bezzi

Bezzi, 1924, Bull. ent. Res., **15**: 77, 112; 1924, Ann. S. Afr. Mus., **19**: 472,489 . Type species: *Trypeta excellens* Loew.

Diagnosis in key.

Afrocneros excellens (Loew)

Trypeta excellens Loew, 1860, Öfv. Vet.—Akad. Förh., **19:** 3; 1861, Berl. Ent. Zeit., **5:** 265, Pl. II, Fig. 5 Becker, 1903, Mitt. zool. Mus. Berl., **2:** 131.
Hemilea excellens (Loew): Bezzi, 1908, Bull. Soc. ent. Ital., **39:** 139.
Ocneros excellens (Loew): Bezzi, 1918, Bull. ent. Res., **8:** 251; 1920, id. 10: 248,
Afrocneros excellens (Loew): Bezzi, 1924, Ann. S. Afr. Mus., **19:** 490, Pl. XIII, Fig. 41; 1924, Bull. ent. Res., **15:** 112. Munro, 1925, Ent. Mem., S. Afr., No. **3:** 51; 1926, id. No. **5:** 23.

Type in Stockholm.

Material: South Africa: Cape Province: 1 ♀ Grahamstown, 10.V.55, E. McCallan; 1 ♀, May 1946, P. Bester. 1 ♀ Kariega, April 1895, Mr. Webber. 1 ♀ Barkly East, July 1946, R. W. Mukheiser. 1 ♀ Ribeeek East, 28.VIII.51, C. G. C. Dickson. 1 ♀ Fort Beaufort (Baddaford) May 1934, bait trap. 1 ♂, 1 ♀, Kokstad, Feb. 1933, H. Eagle, bait trap. 2 ♂♂, 2 ♀♀, East London, Jan.-Mar. 1925, H. K. Munro; 2 ♂♂, V.1946, Gowan C. Clark. 3 ♂♂, 4 ♀♀, Prospect, Mar. 1923, H. K. Munro. 1 ♀, Umdanzani, 29.V.24, H. K. Munro.
Natal: 1 ♂, 1 ♀ Hluhluwe Game Reserve, 23.IV.1963, A. C. van Bruggen. 2 ♂♂ Nagel Dam, Umgeni Valley, 18.IX.61, F. v. d. Riet. 1 ♀ Eshowe, 26.I.1916, A. J. T. Janse. 1 ♂ Weenen, VII-VIII.1923, H. P. Thomasset. 17 ♂♂, 16 ♀♀, Kloof, Jan. 1949, W. E. Marriott, reared from *Cussonia*. 2 ♂♂, 4 ♀♀, Cedara, Feb. 1924, L. B. Ripley, bait trap; 30 ♂♂, 12 ♀♀, Cedara, 1930-1932, L. B. Ripley, taken in bait traps.
Transvaal: 1 ♀ Premier Mine, 25.XII.1919, W. H. Ghent. 1 ♂, 2 ♀♀, Nelspruit, Mar. 1932, F. J. Stofberg, bait trap.
Rhodesia: 1 ♀ Vumba Mts., 14.I.37, Major Drysdale; 1 ♀, III.1938, A. Cuthbertson. N. Vumba, 3 ♀♀, 27.IV.1965, 22.VI.1965 and 6.V.64, D. Cookson.

A robust species. Length, ♂ 6.0 mm, wing 5.0 mm, ♀ 7.0 mm, wing 6.0 mm oviscape 1.3 mm. *Head,* l.h.w. 5.3:7.4:10, eye rounded oval; frons width 0.75 length, 0.3 head, fine, rather long, black pubescence; bristles black 3 (or 4) *i.or.*, 2 strong *s.or.*, *p.orb* a very strong, long, rather wide-spaced row; antennae short, 0.7 face, segment 3 rounded, arista short pubescent on basal third, on middle third a few (5 or 6) long, curved, probably deciduous hairs above and it may appear bare; face rather flat. *Thorax:* dorsum yellowish brown, sides broadly dark brown, weak, brownish dorso-central stripes; 2 strong *mpl.*, *dc* 38, *a.sa* 58. Wing (fig. 1), stigma 0.8 outer costal cell; v3 well setose above and moderately below to mid posterior cell 1; lower outer angle of discal cell tending to a point. *Abdomen.* ♂. T1-3 yellow (often discoloured), T4 dark brown with moderate yellow hind border extended a little on mid line, T5 dark brown with a triangular yellow area posteriorly; pubescence fine, brown. T9 and fultella (fig. 20), aedeagus (fig. 32). ♀. T1-3 yellow, T4-5, almost blackish, each with slight yellow on mid hind margin, T6 short, dark on sides, paler on middle. Oviscape 0.22 wing-length, yellow, blackish at tip, fine brown pubescence. Aculeus (fig. 44), spermatheca (fig. 52) morula (fig. 61).

Afrocneros mundus (Loew)

Trypeta munda Loew, 1863, Wien Ent. Monats., **7:** 16. Becker, 1903, Mitt. zool. Mus. Berl., **2:** 131.
Hemilea munda (Loew): Bezzi, 1908, Bull. Soc. ent. Ital., **39:** 139.
Ocneros mundus (Loew): Bezzi, Bull. ent. Res., **8:** 250; 1920, id. **10:** 248.
Afrocneros mundus (Loew): Bezzi, 1923, Ann. Mus. Nat. Paris, **29:** 579; 1924, Bull. ent. Res., **15:** 112; 1924, Ann. S. Afr. Mus., **19:** 490, Pl. XIII, Fig. 39; 1928, Ann. Tvl. Mus., **12:** 332. Munro, 1925, Ent. Mem. S. Afr., No. **3:** 51; 1926, *id.* No. **5:** 23; 1929. Ann. S. Afr. Mus., **29:** 6.

Material: South Africa: Cape Province: 1 ♀, Middelburg, 2.XI.1933, S. J. S. Marais; 1 ♂, Grootfontein, March 1916, R. O. Wahl. 1 ♂, Bo Kanga, Uniondale dist., March 1954, S. Afr. Mus. 1 Aliwal North, Dec. 1922, R. E. Turner (B.M.). 1, Port St. John, March 1924, R. E. Turner (B.M.). 1 Kimberley, 10/86 (B.M.).

Orange Free State: 1 ♀, Bloemfontein, 9.III.25, H. E. Irving (type locality).

Basutoland: Mamathes, 3 ♀♀, 30.I.51, 10.XI.51, 22.XI.51, C. & A. Jacot Guillarmod. Natal: 1 ♂, Ladysmith, Oct. 1942, Hygiene Officer. 1 van Reenen, Dec. 1926, R. E. Turner (B.M.). 3, Weenen, VI-IX.1925, R. E. Turner (B.M.).

Transvaal: 1 ♀, Premier Mine, 25.XII.1919, W. H. Ghent. 1 ♀, Rustenburg, March 1932, A. J. Smith, bait trap; 5 ♂♂, 4 ♀♀, March 1964, E. C. G. Bedford. 1 ♀, Rosslyn, 16.XI.60, R. du Toit; 1 ♂, 1 ♀, 10.XI.31, W. J. Sim, bait trap. 5 ♂♂, Pretoria, 1914-1929, 1 ♀, Jan. 1934, H. K. Munro; 3 ♂♂, 3 ♀♀, 13.I.27, C. G. Walker, taken indoors; 1 ♂, 1 ♀, I-II.1914, D. Gunn; 1 ♀, 27.VIII.1919, A. J. T. Janse; 3 ♀♀, Roodeplaat, XII.1957, II.1959, I.1960, J. Bot, bait traps; 31 ♂♂, 48 ♀♀, Dec. 1948, Dr. Laubscher, larvae feeding under bark of *Cussonia.*

Length ♂ 6.0 mm, wing 6.4 mm, ♀ 6.2 mm, wing 5.8 mm, oviscape 1.4 mm. Specimens may be smaller or somewhat larger. *Head* yellow posteriorly, brown anteriorly, l.h.w. 5.5:10 to 6:6.6:10; frons 0.8 length, 0.4 head; brown; moderate fine black pubescence; bristles fine, black, 3 *i.or*, sometimes only 2, or there may be 2 or 3 supernumeraries, hind *s.or* about half anterior or much smaller; *p.orb* row of rather long, moderately spaced bristles; antennae 0.7 face, segment 3 rounded oval, brown, segments 1 and 2 yellow, falcella wide, gena about 0.22 height of eye.

Thorax: dorsum brownish yellow, a median more or less double stripe; a dark area above humerus and a narrow stripe from lower half of humerus and along top of mesopleura; pubescence yellow, some dark at top of mesopleura. Bristles: 2 mpl, upper strong, lower moderate, dc 33, 33, 36, a.sa 62, 60, 60. Wing (fig. 2) stigma 0.7 to 0.9 outer costal cell. Typically there is a large, round, hyaline spot in the discal cell; this spot may occasionally be smaller while in a few reared specimens has almost disappeared and in one male the discal cell is quite dark. The pattern is thus almost the same as that of *mundissimus*, but the aedeagus of such a specimen is like the normal *mundus.*

Abdomen: ♂. pattern variable; T1-3 yellow, or 3 dark on sides or with a transverse forwardly curved bar; 4 dark, narrowly yellow on anterior edge and a half lenticular area on hind margin yellow; 5 dark brown, narrowly yellow on anterior margin and middle of posterior half yellow; T8 yellow, T9 brown, short (fig. 21 with fultella); ejaculatory apodeme wide, fan-like; aedeagus (fig. 33) is characterised by the long, curved, apical tube. On the figure two spines are indicated; these appeared to be attached to the membrane, but as none were seen on other preparations, and after closer examination, they must be regarded as artefacts. ♀. the pattern is somewhat less variable. T1-2 yellow, 3 with a transverse bar curved forwards; 4 brown, slightly yellow on middle and on hind margin; 5 brown rather more yellow on hind margin; 6 brown, yellow on mid hind third. Oviscape conical, 0.25 wing-length, yellow on proximal two-thirds, brown apically; pubescence brown, shining. Aculeus (fig. 45), tactile, spermatheca (fig. 53), morula (fig. 62).

Afrocneros mundissimus Bezzi

Bezzi, 1924, Ann. S. Afr. Mus., **19:** 490, Pl. xiii, Fig. 40; 1923, Ann. Mus. Nat. Paris, **29:** 579; 1924, Bull. ent. Res., **15:** 112.

Material: South Africa: Cape Province: 1 ♂, Cookhouse, 8.II.1925, H. K. Munro. 1 ♂, Willowmore, May 1911 and 1 ♀, 5.?.1926, Dr. Brauns. 1 ♀ Fort Brown, Resolution Farm, 23.II.1928, Miss A. Walton. 1 ♀, Graaff Reinet, 20.IV.1908, Ac.C.1982.

It is not possible at present to decide definitely how far *mundus* and *mundissimus* are distinct species. The latter is quite like the former in external characters except that on the wing (fig. 3) there is no large, round, hyaline spot in the discal cell. However, as has been noted, certain specimens of *mundus* reared at Pretoria show a lack of this spot, but the aedeagus is typical *mundus*. The male and the female from Willowmore were dissected. There is a marked resemblance to *mundus* in the peculiar apical tube on the aedeagus (Fig. 34) which however differs in appearing more flared out. Unfortunately there are not enough specimens available to make further dissections. In the female there appear to be differences in the spermatheca and in the morula gland.

♂, length 5.5 mm, wing 6.5 mm, ♀, 6.8 mm, wing 6.1 mm, oviscape 1.5 mm.
Head: l.h.w., 5.7 : 7.7 : 10, frons 0.8 length, 0.4 head; 3 i.or with one or two supernumeraries, hind s.or thin; antennae 0.7 face, segment 3 rounded oval, arista normal for genus.
Thorax: Bristles: dc 36, a.sa 56. Wing (fig. 3) stigma 0.8 outer costal cell; v3 setose above almost to end, below to mid posterior cell 1.
Abdomen: ♂. ferruginous, T4 slightly yellow on mid posterior margin, T5 yellow on apical half. T9 and fultella (fig. 22); aedeagus (fig. 34), the peculiar markings on the dark, flattened "rod" are indicated. ♀. T1 ferruginous, T2 yellow, a slight dark spot on mid anterior edge, T3 ferruginous, slightly yellow on posterior margin, T5 ferruginous, moderately yellow on mid posterior margin, T6 yellow. Oviscape yellow apical fourth ferruginous; all pubescence fine, dark. Aculeus tactile; spermatheca (fig. 54); morula (fig. 63).

Ocnerioxa Speiser

Speiser, 1915, Deutsche Ent. Zeit., Jg. **1915:** 103. Bezzi, 1918, Bull. ent. Res., **8:** 219; 1918, *id.* **9:** 13; 1920, *id.* **10:** 250; 1924, *id.* **15:** 77, 112; 1924, Ann. S. Afr. Mus., **19:** 472, 490. Hering, 1941, Ann. Nat. Hist. Mus. Wien, **51:** 195. Type species: *Ocnerioxa pennata* Speiser.

Diagnosis in key.

Ocnerioxa sinuata (Loew)

Trypeta sinuata Loew, 1860, Ofv. Vet.—Akad. Förh., **19:** 3; 1861, Berl. ent. Zeit., **5:** 263, Pl. II, Fig. 4. Becker, 1903, Mitt. zool. Mus. Berl., **2:** 131.
Hemilea sinuata (Loew): Bezzi, 1908, Bull. Soc. ent. Ital., **39:** 139.
Ocneros sinuata (Loew): Bezzi, 1918, Bull. ent. Res., **8:** 250; 1920, id. **10:** 248.
Ocnerioxa sinuata (Loew): Bezzi, 1924, Bull. ent. Res., **15:** 113; 1924, Ann. S. Afr. Mus., **19:** 492, Pl. XIII, Fig. 43. Munro, 1925, Ent. Mem. S. Afr., No. **3:** 51; 1926, id. No. **5:** 25.

Type in Stockholm. It is recorded from "Caffrerei" but was probably taken by Wahlberg in the area between Durban and Pietermaritzburg where he did much collecting.

Material: South Africa: Cape Province: 4 ♂♂, 6 ♀♀, East London, 1923-1925, H. K. Munro. 3 ♂♂, 3 ♀♀, Prospect, 18.III.1923, H. K. Munro. 1 ♂, 1 ♀, Governor's Kop, near Grahamstown, 4.V.20.
Natal: 1 ♂, 3 ♀♀, Durban, VIII.1933, W. E. Marriott, bait trap. 16 ♂♂, 11 ♀♀, Kloof, Jan. 1949, W. E. Marriott; larvae under bark of *Cussonia.*
Nyasaland: 1 ♂, 1 ♀, Zomba, 15.XI.1943, National Museum, Rhodesia.

Length, ♂ 5.8 to 6.0 mm, wing 6.0 mm, ♀ 6.0 to 7.0 mm, wing 5.8 to 6.2 mm. *Head,* posteriorly with a somewhat triangular brown area on either side; frons width 0.7 length, 0.3 head, yellow, slightly brown anteriorly; bristles dark brown; antennae 0.8 face, segment 3 width 0.5 length, arista micropubescent.
Thorax: dorsum yellowish brown, stripe above humerus and wing base moderate or almost absent, that from lower half of humerus to wing base always blackish along top of mesopleura, or there is a single, wide, dark brown, lateral stripe; bristles: 1 mpl, dc 40, a.sa 60 with only slight variation on five specimens. Wing (fig. 4), stigma 1.2 to 1.3 length of outer costal cell, constant in series of specimens; v3 setose above and below to mid posterior cell 1. The figure given by Loew may not have been made from the type as the hyaline in posterior cell 2 is shown to extend to v4. Dr. Per Inge Persson of the Naturhistoriska Riksmuseet in Stockholm kindly sent a sketch of the wing of the type and the figure given here agrees with this. Apart from the somewhat incorrect shape, the pattern in Bezzi's figure is more correct. The difference between the sexes is that in the male the anterior basal quarter more or less tends to be more yellowish and brown-shining. A small hyaline spot may appear above the lower cross-vein.
Abdomen: ♂. T1-2 usually more yellow, T3-5 darker but more variable, only about mid half of T5 yellow. T9 and fultella (fig. 23); aedeagus (fig. 35); ♀. T1-2 yellow, T3-6 may be quite brown, or somewhat yellow, the sides brown and a more or less broken median stripe; pubescence fine, blackish. Oviscape 0.2 wing-length, brown, fine, dark pubescence. Aculeus (fig. 46); spermatheca (fig. 55); morula (fig. 64). S5 ♂, S6 ♀ densely pubescent with the usual short rows of black micro-setulae.

Ocnerioxa lindneri Munro

Munro, 1966, Stuttgarter Beitr. z. Naturkunde, Nr. **157**: 2, Fig. 1. A. B.

Wing ♂ (fig. 5). Nothing need be added to the description except to note the position of *dc* 28 and *a.sa* 56. The aculeus is tactile.

Ocnerioxa delineata Hering

Hering, 1941, Ann. Nathist. Mus. Wien, **51**: 195, Taf. 00, Fig. 1.

Type ♀, Tanganyika, Ugano.
Material: 1 ♀, Kenya: Chyulu Hills, Alt. 5100′, May 1938, Coryndon Museum Exp.

The following notes are on the Kenya specimen which is certainly this species. The wing-pattern is much like that of *O. lindneri* but the latter has a uniformly coloured thorax without lateral stripes.

♀, length 6.2 mm, wing 6.0 mm, oviscape 1.3 mm. *Head:* behind an inverted comma

mark on either side, the points directed inwards; *p.orb* not very close-set; frons: bristles brown, the 2 i.or lost, s.or short; antennae 0.8 face, arista short pubescent.
Thorax: dorsum brown, moderately wide stripe above humerus not strongly marked and very weak above wing base, stripe on mesopleura darker brown, paler below humerus; pubescence pale brown, shining. Bristles: 1 mpl, st white, dc 35, a.sa 66. Wing (fig. 6), stigma 1.1 outer costal cell; outer angles of discal cell sub-equal; v3 setose to upper cross-vein above, only 1 or 2 setulae below; microtrichiae dark on hyaline, only white on outer hal of spots on costa, on an oval area below v5 and below end of v4.
Abdomen: yellow, blackish brown on sides and an indistinct, moderately wide median stripe from T2 to T5; oviscape blackish brown, fine brown pubescence, 0.2 wing-length. The partly protruding aculeus is tactile and the stylets appear very large.

Ocnerioxa cooksoni n.sp.

Holotype ♂, 1 ♂ paratype, 16.IX.1965; allotype ♀, 3.III.1965, 3 ♀ paratypes, 11.V.1964, 31.X.1965, 7.III.1966, N. Vumba, Rhodesia, David M. Cookson to whose memory this fine species is dedicated. 2 ♂, 3 ♀ paratypes, 17.I.1955, Penhalonga, near Umtali, Rhodesia, B.R.S., P.G. Types in Natal Museum.

Length, ♂ 6.0 mm, wing 6.0 mm, ♀ 6.5 mm, wing 6.5 mm, oviscape 1.25 mm.
Head: yellowish brown, behind only a slight dark streak on either side above neck; bristles dark brown, strong, fine, hind s. or about 0.5 anterior; p.orb short, fine, blackish, not very close-set; antennae yellow, 0.7 face, arista micro-pubescent; gena about 0.25 height of eye, moderately swollen behind, bristle pale.
Thorax: dorsum yellowish brown, above humerus a browner stripe that tends to disappear and is absent in one male, that above wing-base very weak or absent; stripe on mesopleura blackish and does not extend on to humerus; pleura and below only a little paler than dorsum so that the contrast is not marked; pubescence pale yellow. Scutellum flat, yellow, 4 equal bristles; post-scutellar area somewhat ferruginous. Legs yellow; in male on trochanter of hind legs is a group of very close-set bristle hairs which form a large, compound bristle. Bristles: 1 mpl, on four specimens dc 36, 36, 40, 40; a.sa 54, 60, 60, 64. Wing (fig. 7 ♂, 8 ♀), pattern in male yellowish on middle and basally, stigma large and widened, 1.4 length of outer costal cell, the lower outer angle of discal cell a long wide point, v3 setose above to beyond, and below as far as upper cross-vein; outer end of submarginal cell much widened and posterior cell 2 narrowed. In female wing more like other species; lower angle of discal cell a moderately wide point and in a dark female there is a short, dark streak in the hyaline of posterior cell 2; stigma 1.1 outer costal cell.
Abdomen: ♂ brownish, a moderate blackish, median stripe and sides of T5 blackened; T9 and fultella (fig. 25); aedeagus (fig. 36). ♀, abdomen yellow, a median black stripe and sides blackish; pubescence pale shining brown. Oviscape light ferruginous, short, 0.2 wing-length, fine, brownish pubescence; aculeus (fig. 47); spermatheca (fig. 56); morula (fig. 65).

Ocnerioxa bigemmata (Bezzi)

Ocneros bigemmatus Bezzi, 1920, Bull. ent. Res., **10:** 250, Pl. XVIII, Fig. 2.
Ocnerioxa bigemmata (Bezzi), 1924, *id.* **15:** 113.

Material: Kenya: Nairobi, 8:1937, Dr. V. G. L. van Someren, 10 ♂♂, 7 ♀♀, reared from *Cussonia*; specimens somewhat teneral and undercoloured. Muguga, near Kikuyu, 11.X.1953, V. F. Eastop, 1 ♀ in trap, colour good.

Male and female alike. Length, ♂ 5.3 mm, wing 5.5 mm, ♀ 6.0 mm, wing 5.7 mm, oviscape 1.0 mm. *Head* light brown, behind a dark brown, triangular patch on either side; frons slightly darker brown, hind s.or about 0.3 length of anterior; antennae 0.8 face, arista micro-pubescent.

Thorax: dorsum brown, a wide brown stripe above humerus and one above wing, stripe on mesopleura narrow, black; pubescence fine, black, yellow shining. Bristles: 1 *mpl*, *dc* 34, 41, 34, 33, 28, 33 and *a.sa* 56, 56, 75, 60, 52, 77, the positions of these two bristles more variable. Wing (fig. 9), stigma as long as outer costal cell, v3 setose above to upper cross-vein and slightly below.

Abdomen: yellow, widely brown on sides and more or less brown on middle, or a median stripe, or mostly brown and only somewhat yellow at base. ♂. T9 and fultella (fig. 24); aedeagus (fig. 41). ♀. Oviscape brown, 0.17 wing-length; aculeus (fig. 48) 0.9 length of oviscape; spermatheca (fig. 58); morula (fig. 67); S5 ♂ and S6 ♀ pubescence more normal, more close-set in male, but short rows of minute black setulae present.

Ocnerioxa interrupta Bezzi

Bezzi, 1924, Ann. S. Afr. Mus., **19**: 491, P.l XIII, Fig. 42; 1924, Bull. ent. Res., **15**: 113.

Type ♀, Zululand, Mfongosi, Feb. 1914, W. E. Jones (South African Museum).

A light brown species. Length 5.7 mm, wing 4.9 mm, oviscape 1.0 mm. *Head:* occiput yellowish brown; frons, width 0.8 length, 0.4 head, yellow, darker at antennae; bristles brown, pvt paler.

Thorax: dorsum light brown, pleura and below slightly paler, no brown or darker stripes; pubescence fine, pale brown; bristles: 1 *mpl*, no *presut*, *dc* 40, *a.sa* 55 Wing (Fig. 10) most areas between the dark infuscation appear almost hyaline by transmitted light, but there is a paler infuscation on the middle of the submarginal cell. In oblique light the base appears yellowish and other areas quite shining brown, microtrichiae dark, paler spots being below v5 in posterior cell 3, at outer end of discal cell, a spot in stigma and mid marginal cell and slightly above lower cross-vein; stigma 1.0 outer costal cell; v3 setose above to end, below weak to upper cross-vein.

Abdomen: shining, dark, more or less discoloured brown, the two apical tergites mainly yellow; pubescence fine, brown; oviscape yellow, brown at end, fine brown pubescence. Aculeus partly projecting, tactile, rather narrower as in *woodi.*

Ocnerioxa capeneri n.sp.

Holotype ♂, Transvaal, Elandshoek, Nov. 1965, A. L. Capener, in S.A. National Insect Collection, Pretoria. The specimen was thrown down while beating small bushes for other insects.

The head as a whole, the absence of *pt* bristle and the elongate stigma show that this interesting species belongs to the present group. The wing-pattern is more broken up and the thorax unicolourous.

Length, 4.7 mm, wing 4.5 mm. *Head:* yellow, l.h.w. 5.5 : 8 : 10 and so rather short; eye rounded oval, length 0.7 height; frons, width 0.8 length, 0.3 head, slight dark pubescence; bristles brown, the hind *s.or* very small, hair-like, *oc* apparently absent, *p.orb* row of strong, fine, black bristles; antennae 0.65 face, segment 3 oval, arista micro-pubescent; face: parafacials narrow, epistome only a little prominent, gena about 0.3 height of eye. *Thorax:* dorsum light yellowish-brown, a narrow, curved, pale brown stripe on each side above wing base; pubescence fine, short, pale brown shining; bristles: no presut, 1 mpl, dc 38, a.sa 60; pleura and sterna yellow, pale yellow pubescence. Wing (fig. 11), stigma as long as outer costal cell; v3 setose above to mid posterior cell 1, slightly below.
Abdomen: T1-2 yellow, the rest yellowish brown like dorsum of thorax, T4 and T5 a small dark spot at middle near anterior margin; pubescence fine, brown shining. T9 with a black margin on posterior edge; T9 and fultella (fig. 29); aedeagus (fig. 37); sternites and membranes yellowish.

Ocnerioxa pennata Speiser

Ocnerioxa pennata Speiser, 1915, Deutsche ent. Zeit., Jg. **1915**: 103. Bezzi, 1918, Bull. ent. Res., **9**: 14; 1924, *id.* **15**: 113.
Ocneros undatus Bezzi, 1920, *id.* **10**: 248.
Ocnerioxa undata (Bezzi), 1923, Ann. Mus. Nat. Paris, **29**: 579; 1924, Bull. ent. Res., **15**: 113.

Material: 1 ♀, Kamerun 1914, Mubi and Gania, v. Rothkirsch (?); a cotype received from Dr. Speiser and here designated the lectotype to stabilise the species. 1 ♂, Rhodesia: Mazoe, 15.I.29, W. J. Hall. Acc. No. 1176. Uganda: 1 ♀, Bwamba (H) , VI.1948, Dr. V. G. L. van Someren.
Specimens on loan from British Museum. Nyasaland: 1 ♀ Zomba, August 1962, R. C. H. Sweeney (CIE coll. No. 18750; det. *Ocnerioxa undata* Bezzi—R. W. Crosskey). 1 ♀, Cholo, X.1918, 3000′, R. C. Wood, 1597 (det. *O. woodi*); 1 ♂, 1 ♀, Cholo, R. C. Wood; 2 ♀♀, Cholo, 1918, R. C. Wood (one det. *O. woodi*). 1 ♂, 1 ♀, Limbe, 22.IX.1916, 4000′ (RCW) 673 (det. *O. woodi*—Munro). Tanganyika Territory: O. Afrika, Marungu, 1-20, III. 1959, Lindner leg. (from E. M. Hering, det. *O. undata*).

From a study of the cotype, it is not clear why, in his tables in 1924, Bezzi stated, couplet 3 (6) "the fuscous part of the wing ending below with a straight, not wavy line". In 1918 he said that he also had a cotype and if his specimen was like the cotype recorded here, such a statement is curious and misleading since, in his description, Speiser says clearly "die hintere Grenze dieser Färbung sägeförmig abgebrenzt". If, on the other hand, the cotype Bezzi had was actually not the same species as other specimens, he could have checked Speiser's description. Speiser records 39 specimens and apparently he sent cotypes to various authors, but the balance of the specimens has not been traced. It is curious that among specimens received from the British Museum are three labelled "*Ocnerioxa pennata*" but without the determiner's name and not in Bezzi's writing. The wing-pattern *could* agree with Bezzi's "straight line" and with the distinction he gives from *undata* (which is *pennata*). Did Bezzi identify any such specimens as *pennata*? They are recorded here as a new genus and species, *Labeschatia circumlineata*. It may be noted that, from the appearance of the present cotype (now lectotype) Speiser's material must have been in alcohol and had been removed and pinned without any precautions being taken and so become shrivelled and the colour washed out. However, the colour markings are sufficiently well preserved to make certain that the specimens recorded here are the species. The wings on the cotype were crumpled so one was removed and flattened on a slide. Descriptive notes are based on good specimens.

Length, ♂ 4.8 mm, wing 5.2 mm, ♀ 6.0 mm, wing 5.0 mm, oviscape 1.1 mm.
Head: yellowish brown, rather short, l.h.w. 5.6 : 8 : 10; eye, length 0.8 height; occiput with a dark V-shaped mark on either side; frons yellow, slight black pubescence on anterior half, width 0.7 length, 0.34 head; anterior *i.or* black, hind brown, hind *s.or* paler, *p.vt* pale, inner *vt* brown, outer *vt* and *p.orb* row black; *oc* minute; lunule short; antennae yellowish, 0.8 face, arista short pubescent; face yellow, shallow concave, epistome slightly prominent, gena about 0.25 height of eye.
Thorax: dorsum brownish-yellow, pubescence yellow shining; laterally a strong dark stripe above humerus and a stripe from humerus over mesopleura strong; bristles brown, normal, *presut*, 2 *mpl*, *st* pale, *dc* 38, *a.sa* 60. Scutellum triangular, flat, yellow, apical bristles 0.9 basals. Wing (fig. 12), stigma about 1.2 outer costal cell, v3 setose above to mid posterior cell 1, no trace below; microtrichiae white on costal hyaline spots and mainly on posterior hyaline margin; obliquely can be seen dark microtrichiae from corner of discal cell to end of v5.
Abdomen: ♂. T1-3 yellow, T4 brownish across anterior half, a darker spot on middle and darker on sides, T5 brown, more or less yellowish on middle. T9 and fultella (fig. 26); aedeagus (fig. 38). ♀. T1 brown, T2-3 brownish yellow, slight brown on sides, T4-6 dark brown. Oviscape brownish-yellow, pubescence brown shining. Aculeus (fig. 49); spermatheca (fig. 57); morula (fig. 66).

Ocnerioxa woodi Bezzi

Bezzi, 1918, Bull. ent. Res., **9**: 14, Pl. I, Fig. 1; 1924, id. **15**: 113.

Type in British Museum.

Material: Nyasaland, 1 ♂, 1 ♀, Cholo, 4.X.19, R. C. Wood (presented by British Museum). Portuguese East Africa, 1 ♀, Gorongoza Mountain, Manica-Sofala dist., 840 m, Gallery Forest, Sept. 1957, Stuckenberg (Natal Museum). Rhodesia, Cashel, 30.X.1960, A. Carnegie.

Length, ♂ 5.0 mm, wing 5.1 mm, ♀ 6.0 mm, wing 5.2 mm, oviscape 1.2 mm.
Head: l.h.w., 6 : 8 : 10, eye large, rounded, length 0.8 height; frons, width 0.7 length, 0.36 head, a dark spot at lunule, slight, weak, dark pubescence; bristles: 2 *i.or*, anterior black, shorter, hind brown; anterior *s.or* pale brown, hind small or almost absent, genal weak, pale. Antennae 0.9 face, arista bare; face: a strong, black bar across slightly prominent epistome.
Thorax: dorsum on middle yellowish brown, posteriorly paler yellowish with slight, whitish dust; bristles light brown, no *presut*, 1 and a weak *mpl*, *st* strong, no *pt*, *dc* 33, *a.sa* 55. Wing (fig. 13), stigma 1.23 outer costal cell; v3 weakly setose to upper cross-vein above and below.
Abdomen: ♂. yellow, T5 shining blackish; T9 and fultella (fig. 27); aedeagus (fig. 39). ♀ straw yellow, pale pubescence, also oviscape which 0.2 wing-length; aculeus (fig. 50); spermatheca (fig. 59); morula (fig. 68).

Ocnerioxa discreta Bezzi

Bezzi, 1920, Bull. ent. Res., **10**: 251; 1924, *id.* **15**: 113.

Type ♂, N. Nigeria, Dr. J. W. S. Macfie; type examined on loan from British Museum.

Length 4.2 mm, wing 4.1 mm. *Head* yellow, a black spot at each side of epistome, behind, laterally a moderate brown bar; l.h.w., 5.7 : 6.6 : 10; eye almost quite rounded length 0.9 height; frons, width 0.8 length, 0.4 head, narrowed anteriorly; slight pale yellow pubescence; bristles yellow except outer *vt* and *p.orb* black, anterior *i.or* about half posterior and hind *s.or* about half anterior; *oc* very small, hardly apparent; antennae 0.8 face, segment 3 width half length, arista bare; face: parafacials narrow, gena moderate, about 0.2 height of eye, epistome not prominent.

Thorax: dorsum broadly brown on middle, darker brown on sides with blackish bar above humerus, weak above wing, moderate stripe from humerus along mesopleura; pubescence pale shining; bristles: *scp* weak or not apparent, *presut* present but no *pt*, *dc* 40, *a.sa* 47; scutellum flat, yellow, 4 bristles. Wing, pattern like *woodi*; stigma 1.3 outer costal cell, v3 slightly setose above and below to upper cross-vein.

Abdomen: base dark, more or less discoloured, T4 and T5 yellow, the latter with brown spot on each side at apex, united around hind margin; T9 short, cerci long; "patches" on S5; venter dark, discoloured.

Ocnerioxa tumosa n.sp.

Holotype ♂, allotype ♀, 2 ♂ paratypes, Uganda, Dwoli, 15.XII.1932 (coll. 8617), H. Hargreaves. (From Commonwealth Institute of Entomology; types in British Museum).

This species is very like *O. woodi* and *O. discreta* but lacks any dark marks on the epistome.

Length, ♂ 4.7 mm, wing 5.9 mm, ♀ 5.7 mm, wing 5.5 mm, oviscape 1.4 mm. *Head:* yellow, behind a brown V-shaped mark on either side; l.h.w., 6 : 8 : 10, eye, length 0.8 height; frons, width 0.7 length, 0.32 head, pale yellow and similar pubescence; bristles: 2 *i.or* brownish, hind *s.or* very small, almost vanishing, *pvt* and inner *vt* pale yellow, *oc* minute, outer *vt* and close-set *p.orb* black; antennae 0.8 face, arista bare; face: epistome very slightly prominent, parafacials narrow, gena wide, 0.2 height of eye, swollen behind.

Thorax: dorsum brown, very slight whitish sheen, laterally a moderate, dark brown stripe above humerus fading out above wing base, mesopleural stripe normal; pubescence pale, shining; bristles pale yellow to brownish, *presut*, 1 *mpl*, no *pt*, *dc* 31, *a.sa* 52. Scutellum yellow, flat, triangular, 4 bristles; post-scutellar area dark brown. Wing (fig. 14), stigma 1.3 outer costal cell, v3 finely weak setose above to mid posterior cell 1, below nearly to upper cross-vein; squamae, upper moderately wide, brown, lower narrow.

Abdomen: ♂. yellow, obliquely with whitish dust and may appear more or less brownish on middle; T1 and half of T2 dark brown, a small dark spot on hind corners of T4, on T5 a moderate, brown spot on either side and at apex, the latter divided by yellow, T9 brown. T9 and fultella (fig. 28); aedeagus (fig. 40). ♀. yellow, only slightly darkened at base and a small dark spot on hind outer corners of T5 and T7. Oviscape somewhat flattened conical, deep yellow, pale pubescence; membranes and sternites yellow. Aculeus tactile; female not dissected.

Ocnerioxa secata Munro

Munro, 1957, Brit. Mus. Ruwenzori Exp., **2**: 879, Fig. 10. (Type, from Cameroons, in British Museum).

A further examination of the type seems to indicate that this is not a true *Ocnerioxa.* On the whole it appears to belong to the present group and it may be retained in *Ocnerioxa* until more specimens are available rather than erect a new genus now.

Points that may be important are:—the plumose arista, *oc* bristles apparently quite absent, and the 2 *s.or* that seem to be on somewhat prominent vertical plates. The wing-pattern is rather like that of *O. interrupta* and the stigma elongate; the upper cross-vein is a little farther from the lower than usual. The *pt* bristle is absent as far as may be ascertained; it seems, however, that the specimen had been put into a paper envelope and become somewhat squashed laterally. The type is a female, but the aculeus could not be checked as it is entirely drawn into the oviscape.

Ptiloniola Hendel

Hendel, 1914, Wien ent. Zeit., **33**: 79. Bezzi, 1918, Bull. ent. Res., **8**: 246; 1924, *id.* 15: 109.

Type species: *Ocneros tripunctulata* Karsch, as *Ptiloniola preussi* Hendel.

This genus was described (erected) in the long tables of genera published by Hendel; characters traced through the tables do not seem very strong but Bezzi was able to place his *neavei* correctly in the genus which he re-described on his species. Further comment is given under *tripunctulata* Karsch. As has been noted Bezzi's 1924 tables are somewhat misleading and he did not seem to have realised that *Ptiloniola* is close to *Afrocneros.* Neither genus nor species was further described by Hendel.

Ptiloniola has a plumose arista, and the *p.orb* bristles form a strong, long, very close-set row. The wing is almost entirely infuscated, and, in particular, as seen in the type species, a very remarkable aedeagus (fig. 43).

The species *secata* has also a plumose arista, but has been retained in *Ocnerioxa.*

Ptiloniola tripunctulata (Karsch)

Hemilea tripunctulata Karsch, 1887, Ent. Nach., **13**: 5 (27), Fig. 4.
Ptiloniola preussi Hendel, 1914, Wien ent. Zeit., **33**: 79.
Ptiloniola neavei Bezzi, 1918, Bull. ent. Res., **8**: 247, Pl. 5, Fig. 11; 1924, *id.* **15**: 109. (Note: Specimens recorded as this, *Pt. neavei,* Munro, 1957, Brit. Mus. Ruwenzori Exp., **2**: 877 are incorrectly so, and are described here as a new species).
Ptiloniola tripunctulata (Karsch): Bezzi, *id.* **15**: 109.

Material: Kenya: 1 ♀, Shimba Hills, 1000′, VII.1939, Dr. V. G. L. van Someren (NCI). Nyasaland: Mt. Mlanje, 26.XI.1912, S. A. Neave (BM); 3 ♂♂, 1 ♀, Cholo, 4.X.1919, 2600 ft., R. C. Wood, 1237) (NCI presented by BM.) Portuguese East Africa: 2 ♂♂, 1 ♀, Gorongoza Mountain, Manica-Sofala dist., 840 m, gallery forest, Sept. 1957, Stuckenberg; 1 ♂, Tumbine Mountain, Milange, July 1957, B. & P. Stuckenberg (Natal Mus.). Rhodesia: 1 ♀, N. Vumba, 13.X.1965, D. Cookson (Natal Mus.).

In addition, the female type of *Hemilea tripunctulata* Karsch and another female were received on loan through the kindness of Dr. H. Schumann in Berlin, and another female identified as *Ptiloniola neavei* by Hendel from Dr. Kaltenbach in Vienna. All the foregoing specimens are the same species; the specimen used by Hendel as the "type" of *preussi* was not located and it is here, nothing to the contrary, accepted as the same as *tripunctulata*.

Karsch's type bears the following labels:—Pungo Andongo, A. v. Homiger (green); TYPE (red); 11025 (white); *Hemilea tripunctulata* n.sp. Karsch (white). The other female (paratype) has no labels. The female from Vienna:—S. Nigeria, Dr. J. W. (?Eath . . ., part of label cut away—white); Zunge . . . (?), Nov. 16, 1900 (?) pin through figure); coll. Hendel; *Ptiloniola neavei* Bezzi, det. Hendel.

The type of *tripunctulata* agrees closely with Bezzi's description of *neavei*. The following notes are based on the type in comparison with other specimens.

Length, ♂ 6.5 mm, wing 6.7 mm, ♀ 6.9 mm, wing 6.5 mm, oviscape 1.0 mm. *Head;* l.h.w., 6.6 : 8 : 10, a strong V-shaped mark on either side behind; eye length 0.7 height; frons, width 0.6 length, 0.33 head; slight pubescence on anterior half, all bristles strong, black, 2 *i.or*, 2 *s.or*. *oc* small (Hendel: "Ocellarborsten fehlen"), *p.orb* a strong row of very close-set, rather long bristles; lunule small; antennae 0.72 face, segment 3 rounded, arista plumose, plumes as wide as antennal segment 3; face: epistome barely prominent, gena 0.13 height of eye.

Thorax; dorsum dark brown, hardly a trace of a stripe above humerus, but a strong, blackish stripe from lower half of humerus and along top of mesopleura; pubescence black, strongly brown-shining, especially on middle where it appears pale; bristles: presut, 1 *mpl* and a smaller, pale, weak one, *st* brown, no *pt* (Bezzi mentions a *pt* in his description of *neavei*); on type, *dc* 42, *a.sa* 61, on others *dc* 40, *a.sa* 60. Legs: bristle hairs on hind femora are variable. Hendel states "Hinterschenkel meist mit vier Borstenhaaren" but Bezzi "hind femora without bristles below". On the type, on the right femur below are three, strong, pale brown bristle-hairs, the largest a little longer than the diameter of the femur, the other two about this length—there are also three strong, dark brown bristle-hairs on the coxa; on the left femur the hairs are inconspicuous. On the paratype there are on the femora two rather weaker as well as two even shorter bristle-hairs. On other specimens there are moderately strong, weak or no bristle-hairs. Wing (fig. 15) almost entirely infuscated; the figure (4) given by Karsch is somewhat out of proportion and the stigma too small. Bezzi used the difference in the position of a small pale spot in the discal cell as a specific difference between *tripunctulata* and *neavei*, but it is incorrectly placed in Karsch's figure and, on the type, it is nearer the upper cross-vein as in the present figure; the three small spots on the middle of the wing tend to disappear, especially that in the second basal cell, that in the posterior cell 1 usually remaining. Stigma 1.2 length of outer costal cell; v3 strongly setose above almost to end below moderately to upper cross-vein. The pleuro-tergite is not hairy and *Ptiloniola* has nothing to do with *Ptilona* in which it is. Scutellum flat, dark, triangular 4 bristles of about equal length.

Abdomen: ♂. yellow on middle, widely dark brown on sides and on T5, or more extensively yellowish; pubescence fine, black. T9 and fultella (fig. 30); aedeagus (fig. 43 a, b, c); the three remarkable apical appendages are shown further enlarged and what is seen is the internal appearance extraordinarily different in each. Further the outer surface of each differs, in "a" it is covered with a fine etching, in "b" with minute setulae, and in "c" with

an extremely fine pubescence mat. ♀. abdomen mainly dark brown, or more or less yellowish, or yellow on middle of T1-3. Oviscape about 0.2 wing-length, dark brown, dark pubescence. Aculeus (fig. 51); spermatheca (fig. 60); morula (fig. 69).

Ptiloniola rotunda n.sp.

Holotype ♂, Kenya: Kalifi, XII.1943, Dr. V. G. L. van Someren (NCI, Pretoria).

Length, 4.0 mm, wing 4.8 mm. Head, l.h.w., 5.5 : 7.2 : 10, brownish-yellow, translucent yellow behind; eye rounded, length 0.8 height; frons brown, yellow anteriorly, width 0.6 length, 0.3 head; slight dark pubescence; bristles brown, moderate *p.orb* row, 2 *i.or*, 2 *s.or*, hind one 0.5 anterior, *oc* pale, minute; antennae 0.8 face, segment 3 rounded oval, both aristae lost; face concave, epistome barely prominent, parafacials linear, gena 0.14 height of eye.

Thorax: dorsum translucent reddish brown to top of mesopleura where only a darkened stripe; pubescence fine, short, brown; bristles brown, *presut*, 2 *mpl*, the lower weak, no *pt*, *dc* 44, *a.sa* 55. Pleura and below yellow, pale pubescence; squamae, upper rather narrow, brown margin and fringe, lower narrow. Scutellum triangular, slightly convex; wing (fig. 14), stigma as long as outer costal cell; v3 setose above to upper cross-vein, not below. *Abdomen* more or less like dorsum of thorax, rather more yellow on middle and especially on T5; pubescence fine, pale brown; venter yellowish; T9 short.

Ptiloniola edwardsi n.sp.

Holotype ♂, allotype ♀, Uganda: Ruwenzori Range, XII.1934—I.1935, B.M. E. Afr. Exp., B.M. 1935-203. Namwamba Valley, 6500 ft. F. W. Edwards. Types in British Museum, a damaged paratype female in Pretoria.

Incorrect identification. The three specimens were recorded as *Ptiloniola neavei* Bezzi (= *tripunctulata* Karsch) in the Ruwenzori Report, 2 : 877. The somewhat greater extent of the marginal hyaline of the wing was taken to be merely a local variation and the marked difference in the venation, especially the much longer stigma, was overlooked.

Length, ♂ 6.4 mm, wing 8.4 mm, ♀ 6.5 mm, wing 6.8 mm, oviscape 1.0 mm. *Head:* yellow, l.h.w., 7 : 9 : 10 so rather short, eye rounded oval, length 0.9 height; frons, width 0.75 length, 0.34 head, brownish yellow, vt plates shining moderate black pubescence; bristles strong, black, 2 *i.or*, 2 *s.or*, *oc* short but rather longer than in other species, *p.orb* a strong, close-set row, genal brown; antennae 0.7 face, arista plumose; face somewhat flat, epistome slight.

Thorax: dorsum yellowish brown, lateral stripe above humerus weak, moderately strong on mesopleura; pubescence pale brown shining, brown on lateral brown; bristles normal, strong, black, 2 *mpl*, *st* brown, no *pt*. *dc* 37, *a.sa* 60. Pleura and below yellow, yellow pubescence. Scutellum yellow, triangular, 4 equal bristles; wing (fig. 18 ♂, 19 ♀), stigma ♂ 1.7 outer costal cell, ♀ 1.3; v3 close-set setose above, below spaced to mid posterior cell 1. *Abdomen:* ♂ blackish ferruginous more or less yellow on hind margins of tergites; T9 blackish, processes elongate. ♀ black, slightly paler on middle of hind edges of tergites; oviscape blackish, aculeus tactile.

Labeschatia g.nov.

A remarkable feature is the absence of the *a.sa* as well as *presut*, *st*, *pt* and *prescut*, and the almost complete brown stripe around the body; vein 2 is somewhat wavy and submarginal cell wide at end. The aedeagus is also different.

Type species: the following new species, *Labeschatia circumlineata.*

Labeschatia circumlineata n.sp.

Five specimens had been received from the Commonwealth Institute of Entomology and recently three more from the British Museum. The latter had been identified as *Ocnerioxa pennata* Speiser, but the determiner's name is not on the label which is not in Bezzi's writing. There is apparently no specimen identified by Bezzi but it may be suspected that the statement in couplet 3 (6) of his 1924 tables "straight, not wavy" could have been based on such a specimen. However, Bezzi did have a cotype of *pennata*, but, at the same time, the "straight line" does not apply to his *undata* either as is implied in the table.

The eight specimens are located thus:—
Holotype ♂, allotype ♀, 2 ♂ paratypes, Nyasaland: Limbe, Ruo R. 22.IX.1916, R. C. Wood, 674. British Museum, 1 ♂ paratype Pretoria. 1 ♂, 1 ♀ paratype, Limbe, 22.IX.1916, 4000 ft., R. C. Wood, Pretoria; 1 ♂ paratype, Limbe, Chiromo, Ruo R. 22.IX.1916, R. C. Wood, B.M.; N.W. Rhodesia: 1 ♂ paratype, Chilanga, 19.IX.1913, R. C. Wood "on wild fig tree". B.M.

A distinctive, pale species with pale wings and an almost continuous, brown, lateral stripe around the body, and a strong, but narrow mesopleural stripe.

Length, ♂ 5.2 mm, wing 5.4 mm, ♀ 5.0 mm wing 4.7 mm, oviscape 1.0 mm.
Head: yellow, only a slight brown mark on each side behind; l.h.w., 5.6 : 6 : 10; eye rounded, length 0.7 height; frons, width 0.7 length, 0.4 head, some pale brown pubescence; bristles pale brownish, short, 2 *i.or*, 2 *s.or*, the hind one weak and small, or almost absent, *oc* minute, the dot black; outer vt and spaced, short *p.orb* darker brown; lunule short; antennae pale yellow, segment 3 rounded at end, arista brown, bare; face: epistome slightly prominent parafacials narrow, gena 0.23 height of eye, the bristle small; proboscis short, and palpi yellow.

Thorax: dorsum pale yellowish-brown, pubescence fine, pale and a slight shimmering of dust; on each side a strong, brown stripe continued from dark mark behind head, above humerus, downwards outside *dc* line, touching outer corners of scutellum and on sides of post-scutellar area; mesopleural stripe strong, narrow, dark from lower half of humerus to wing base; bristles pale brown, *scp* 0, *presut* 0, *mpl* 1, *st* 0, *pt* 0, *a.sa* 0 but 2 P.*sa*, *dc* 10, very far back, *prescut* 0. Scutellum flat, yellow, rounded at end, 4 equal bristles; pleura and below more yellowish brown, pale yellow pubescence. Legs yellow, clothing yellow. Wing (fig. 17) pattern dimidiate, pale yellow with a wide brown margin on inner side and around apex; stigma 1.1 outer costal cell; v2 somewhat wavy and outer end of submarginal cell widened; lower outer angle of discal cell wide; v3 weakly setose on inner half; squamae, upper moderately wide, lower narrow.

Abdomen: yellowish, darker at base and, on each side just inside the edges, a strong brown stripe continued from the on the thorax and more or less around apex of abdomen; pubescence pale; T9 and fultella (fig. 31); aedeagus (fig. 42), the hood-like part is finely setose on the inner surface. ♀. the lateral brown is less defined as a stripe, on the middle more or less brownish or somewhat discoloured; pubescence pale. Oviscape yellow, pale pubescence; aculeus tactile. ♀ not dissected.

BIOLOGY

The first indication of the larval habits of any of these species was when Dr. V. G. L. van Someren in Kenya reared specimens of *Ocnerioxa bigemmata* "from *Cussonia*".

In a paper by R. D. Aiken on "The Plant Succession in a type of Midland Tree Veld in Natal" (1922, *S. Afr. J. Sci.*, **XVIII**: 241) there is some discussion on the number of dead *Cussonia* trees observed. The author at first throught this could have been normal succession of trees in a clump. However, he decided he was quite convinced that the death of the trees was caused by white ants, noting that the trees often grew alongside termite nests.

In December 1948 a resident in Pretoria reported that the *Cussonia* in his garden was dying. The stem, 3½ inches in diameter, was examined and, under the bark were many maggots. On examination of the stem later in the National Herbarium, it was stated that only the parenchyma tissue of the cortex of the stem had been eaten. All lignified tissues, like the strands of vascular bundles, were not touched. Also the maggots had not penetrated into the parenchyma of the pith.

Eventually two trypetids, *Afrocneros mundus* and *Ocnerioxa sinuata* were reared, incidently showing that two species lived together in the same environment. It may be noted that there were maggots of various sizes indicating a probable succession of egg-laying, but whether of one or of both species could not be ascertained.

It may, therefore, well be assumed that the primary injury that kills the stem is done by the flies and that termites would invade the dead stems to consume what the flies had left.

Following the Pretoria discovery, the next year, January 1949, the late Mr. W. E. Marriott who collected and reared many Trypetidae, obtained *Afrocneros excellens* from the stem of a *Cussonia* at Kloof, Natal.

A character that had drawn attention to the *Afrocneros-Ocnerioxa* species was the wide, rounded tip of the aculeus with its long, sensory hairs. This type of aculeus has been termed "tactile" and it does not appear suitable for piercing tissues; it is thus very likely that the eggs are laid between cracks in the rough bark of the host-plant. As has been noted, a similar aculeus has been noted in other groups of Trypetidae where the larval habits may be much the same.

The adult flies are often taken indoors and they are strongly attracted to pollard baits. At Prospect, near Komgha in the Eastern Cape, they were taken feeding on ripe figs partly eaten by birds.

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The material, collected and reared as recorded, is much appreciated and invaluable. Mention must be made of the late W. E. Marriott and the late David M. Cookson, both enthusiastic collectors who have added much to the knowledge of our Trypetidae.

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